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EXAMINER	
FLEISCHER, MARK A	

ART UNIT	PAPER NUMBER
3624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

officeaction@mhbpatents.com

Office Action Summary	Application No.	Applicant(s)	
	10/716,669	HO ET AL.	
	Examiner	Art Unit	
	MARK A. FLEISCHER	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 11-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. This non-final Office action is in reply to the amendments filed on 7 September 2010.
2. Claims 1, 11 and 20 have been amended.
3. Claim 10 has previously been cancelled.
4. Claims 1 – 9 and 11 – 20 are currently pending and have been examined.

Continued Examination Under 37 CFR 1.114

5. A request for continued examination under 37 CFR §1.114, including the fee set forth in 37 CFR §1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR §1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR §1.114. Applicant's submission filed on 7 September 2010 has been entered.

Response to Amendments

6. No prior rejections other than those under 35 U.S.C. 103(a) were outstanding, but see new rejections under 35 USC § 112, 1st paragraph below.

Response to Arguments

7. Applicant's arguments received on 7 September 2010 have been fully considered but they are not persuasive and are moot in light of new grounds of rejection. Referring to the previous Office action, Examiner has cited relevant portions of the references as a means to illustrate the systems as taught by the prior art. As a means of providing further clarification as to what is taught by the references used in the first Office action, Examiner has expanded the teachings for comprehensibility while maintaining the same grounds of rejection of the claims, except as noted

above in the section labeled "Status of Claims." This information is intended to assist in illuminating the teachings of the references while providing evidence that establishes further support for the rejections of the claims.

8. Applicant has further amended the independent claims to specifically recite "*the part pull request signal is triggered after detected usage of a predetermined number of individually detected parts*". Examiner finds similar teachings in Lindoerfer [0128] which fairly implies this limitation and which states "...through a Material Release process whereby a manufacturer determines when to allow a supplier to ship parts against a Schedule Item by setting up trigger configurations..." (emphasis added) wherein *ipso facto* these configurations typically involve some threshold, which in the context here would correspond to some predetermined quantity of parts requests as triggers, by definition, require some specified event which in this context corresponds to a quantity. This passage goes on to describe and/or disclose Kanban triggers and refers to a "Ship Quantity" window" where parts are ready to be delivered. Those skilled in the art would recognize the reference to Kanban triggers specifically refers to some threshold quantity in a just-in-time inventory system. It is also basic that a triggering system must employ some sort of threshold value of that which is monitored and the cited prior art provides ample teachings of monitoring and triggering.

9. Even if this interpretation is faulted, however, Griep provides a clear description of this limitation. Griep [0048] states "The signal has been created due to some triggering event, such as an empty bin or inventory level is below a threshold.", or in [0069] which states "Another mechanism for triggering a replenishment signal takes advantage of existing Inventory Management systems in a facility's ERP or MRP system. By periodically reviewing the inventory levels of specific materials or resources, the CFM system can trigger a replenishment signal. Further, one way to set this threshold is to use the Kanban quantity for a given part. This is of benefit to many facilities because they can continue to handle materials with their existing Inventory Management system and enable demand-based replenishment." (emphasis added) where the emphasized text clearly describes a set 'quantity' to be used as a threshold.

10. Applicant's argue that the rejection of claim 4 should be withdrawn because of their contention that the independent claims are allowable over the prior art. Given the new grounds of rejection however, this argument is similarly moot.

11. In attempting to articulate the invention and distinguish the present invention from the prior art, Applicant has incorporated new matter as noted in the rejections below. Examiner has employed new art to address these concerns and hence provides new grounds of rejection to demonstrate how this new matter has been taught in prior art.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claims 1 – 20 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- Independent claims 1, 11 and 20 recite the limitation *the part pull request signal is triggered after detected usage of a predetermined number of individually detected parts*. The specification teaches, variously, that a "parts pull detector" functions automatically based on detection of parts usage. See for example, Specification [007] which states "The method comprises the steps of automatically detecting usage of parts on a product line and automatically triggering a part pull request signal as a function of the detected usage", and in [009] "The processor is configured to automatically trigger a part pull request signal in response to consumption of parts as detected by the parts consumption detector...". See also [018], [019] and [025] for similar language and scope. Nowhere in the specification is a description basing a trigger on 'predetermined number of individually detected parts' or any

language that can reasonably infer such limitation beyond the scope of what has been shown in the prior art noted below in the rejections under §103(a). Indeed, even the words "predetermined" or "specified" are not present in the specification. Consequently, this limitation is considered to be new matter.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1 – 3, 5 – 9 and 11 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoerfer (US 20020069096 A1) in view of Aram (US 20020072986 A1) in view of Burnard (US 6684119 B2) and further in view of Griep, et al. (US PgPub 20030014314 A1).

Claims 1 and 11:

Note that the limitations of claim 11 although reworded in some instances and restructured, are identical in scope as claim 1 and are therefore addressed once. Lindoerfer, as shown, describes and/or discloses the following limitations (per claim 1):

- *automatically detecting individual real-time usage of parts on a product line with at least one parts consumption detector, wherein the detection occurs at the time of individual part usage* (Lindoerfer, in at least [0122]: "This electronic processing includes, […] tracking release numbers to match line items, automatically updating the parts information database, […] the quantity received, the date of last receipt, etc." (emphasis added) Lindoerfer [0231] states "The SRMS is configured to track the cumulative consumption of materials by one or more manufacturers. This information allows suppliers/vendors to track the consumption needs of manufacturers." (emphasis added) Also, Lindoerfer [0213] states "The usage for a

selected product and/or service is graphically represented for a specified window of time…" (emphasis added) which indicates an automatic detection. Lindoerfer [0117] states "The 'Schedule Summary' screen provides the user with summary information on all parts delivery requirements to the manufacturer and tracks the status of these requirements from this point on in time until the requirement is fulfilled and completed." (emphasis added).);

- *transmitting the shipping order over a public data network by the processor from the manufacturer to the logistics provider at a different geographic location than the manufacturer* (Lindoerfer, in at least [0125] states: "The manufacturer initiates the purchase order process by preparing and sending purchase orders (POs) and/or changes to POs […] in a recognizable format (e.g., electronic flat file format) []." In this context, a 'purchase order' is equivalent to a *shipping order*. Lindoerfer further states: "Based on the most recent PO information received from the manufacturer, the SRMS sends a "New PO" […] to the manufacturer and the interested supplier(s) [ ]." In at least [0085] Lindoerfer states: "Initial information/data (e.g., planning, parts, etc.. . .) is provided via an established data link over a network (e.g., Internet) between a manufacturer [ ] and the SRMS […]" (emphasis added) where the Internet is a *public data network*. Lindoerfer states: "[T]he SRMS programs use the data in the DBMS to produce views into the supply chain process in the form of Web pages, so that a manufacturer, a supplier, and/or an administrator can use a standard browser, e.g., Internet Explorer, […], at their respective locations […]. The SRMS also allows a manufacturer or a supplier to download or upload files in various formats, e.g., EDI, XML, HTML, etc." thereby indicating information exchange between a *manufacturer* and *logistics provider* (supplier) at different locations. Lindoerfer, in at least [0143] also specifically refers to a *logistics provider*: "[The system] is configured with an on-line shipment tracking module, wherein the SRMS is linked to the tracking servers of one or more logistics information service providers."

Finally, Lindoerfer [0105] states "The method and system are able to send alert messages, e.g., via automatically created e-mail, to both a manufacturer and a supplier, based on configurable criteria." (emphasis added) where 'send alert messages' corresponds to *transmitting…*);

- *automatically generating a picking list, by the logistics provider, based on the part pull request signal and the shipping order* (Lindoerfer, in at least [0130] states: "[T]he manufacturer utilizes an "Authorization to Ship" screen to create an Authorization to Ship trigger from within the system to allow the Manufacturer to utilize pull trigger releases without having to implement this functionality in their MRP/ERP environment." (emphasis added). This pull trigger is further utilized in an automated fashion. See at least [0258]: "[T]he SRMS provides automation tools for automating supplier shipping functions, such as facilitating use of the SRMS to generate packing lists and other shipping-related documentation […]" where the 'packing list' corresponds to the *picking list*. Lindoerfer [0143] refers to "logistics information service providers"); *and*
- *automatically generating delivery information to the manufacturer, by the logistics provider, based on the picking list* (Lindoerfer, in at least claim 4 therein describes: "The system … wherein the supply chain data includes […] product specification information, [and], delivery information, […]." Emphasis added. Here, 'product specification information' corresponds to the *picking list* and this 'information' is available to manufacturers, hence *to the manufacturer*. Thus, in at least [0094], Lindoerfer states: "Information […] is entered […] and […] sent to the manufacturer []. Passing along the way through the various operational tables […] before being transmitted electronically to the manufacturer." Lindoerfer [0143] refers to "logistics information service providers"),

Lindoerfer does not specifically describe and/or disclose the following limitations, but Aram, as shown, does:

- *automatically triggering, by a processor, a part pull request signal as a function of detected usage of individual parts by the at least one parts consumption detector, wherein the part pull request signal is triggered after detected usage of a predetermined number of individually detected parts* (Note that the parts consumption detector is taught by Lindoerfer as shown above. Aram, in at least [0003]: "When the first kanban is empty it is returned to the supplier and the second kanban moves forward to take its place. At the same time an electronic data interchange (EDI) signal is sent to the parts supplier as notification that all the parts in the first kanban have been used." Emphasis added. The EDI signal corresponds to a *part pull request signal*. *S*ince the second kanban moves to take the place of the first when it is empty, it follows that it is automatically triggered by the emptying of the first kanban.)*;*
- *automatically translating the part pull request signal to a shipping order by the processor* (Aram, in at least [0003]: "In a demand pull system, the manufacturer automatically orders stock from the supplier in anticipation of its use…" Emphasis added. Note that the 'automatic ordering' is associated with a pull system wherein a "signal is sent to the parts supplier as notification that all the parts in the first kanban have been used." Note also that Aram teaches the detection of usage on a product line that render it empty wherein Aram [0003] states "When the first kanban is empty it is returned to the supplier and the second kanban moves forward to take its place. At the same time an electronic data interchange (EDI) signal is sent to the parts supplier as notification that all the parts in the first kanban have been used.")

The inventions of both Lindoerfer and Aram describe a number of similarities in that both inventions pertain to supply chain systems that utilize state-of-the-art communications methods via the Internet and computer based inventory control systems and methods. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the

invention to combine the inventions of Lindoerfer and Aram because employing features of both inventions increases the functionality and applicability of these supply chain management systems.

Neither Lindoerfer nor Aram specifically teach *wherein the detection occurs at the time of part usage,* or detects individual parts, but Burnard, in an analogous art does. Burnard [abstract] and at [2,19] states "The method includes the steps of tracking real-time usage of material used for a product, maintaining the tracked real-time material usage within a computer database on a local computer network ..." (emphasis added) and further teaches methods of dynamic inventory management in a supply chain. Examiner notes that the reference to Burnard regarding real-time usage does not recite that such detection is based on *individual* parts, but Examiner maintains that this is fairly implied by the teachings of Burnard. The real-time monitoring would, by virtue of its real-time behavior detect a single usage, hence an *individual part*. Burnard [3,22] states "The use of the component part on the assembly line 12 acknowledged by a material tracking device 14. It should be appreciated that depending on the type of material, the use of a single component part or a container of many component parts may be acknowledged."(emphasis added) and the Examiner further notes that such real-time detection (tracking) is also old and well-known in the supply chain management arts as further shown in Radican [6,50] regarding the tracking and monitoring of parts usage. In addition to the foregoing, Burnard [abstract] states

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and combine the teachings of Lindoerfer, Aram and Burnard to provide dynamic inventory control methods in a supply chain as such techniques are examples of "lean manufacturing strategies to increase competitiveness and reduce costs. One strategy includes synchronized delivery of to a manufacturing or assembly plant, where the plant maintains a minimal level of inventory." (Burnard [1,20]). Moreover, the technical capability to combine these teachings existed at the time of the invention and the combination of them would have been predictable.

Neither Lindoerfer nor Aram nor Burnard specifically teach that *the part pull request signal is triggered after detected usage of a predetermined number of individually detected parts,* but Griep, in an analogous art does. First note however that Examiner finds similar teachings in Lindoerfer [0128] which fairly implies this limitation and which states "...through a Material Release process whereby a manufacturer determines when to allow a supplier to ship parts against a Schedule Item by setting up trigger configurations..." (emphasis added) wherein *ipso facto* these configurations typically involve some threshold, which in the context here would correspond to some predetermined quantity of parts requests. This passage goes on to describe and/or disclose Kanban triggers and refers to a "Ship Quant" window" where parts are ready to be delivered. It is also basic that a triggering system must employ some threshold value of that which is monitored and the prior art noted above provides ample teachings of monitoring and triggering. Even if this interpretation is faulted, however, Griep provides a clear description of this limitation. Griep [0048] states "The signal has been created due to some triggering event, such as an empty bin or inventory level is below a threshold.", or in [0069] which states "Another mechanism for triggering a replenishment signal takes advantage of existing Inventory Management systems in a facility's ERP or MRP system. By periodically reviewing the inventory levels of specific materials or resources, the CFM system can trigger a replenishment signal. Further, one way to set this threshold is to use the Kanban quantity for a given part. This is of benefit to many facilities because they can continue to handle materials with their existing Inventory Management system and enable demand-based replenishment." (emphasis added) where the emphasized text clearly describes a 'quantity' to be used as a threshold.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and combine the teachings of Lindoerfer, Aram Burnard and Griep to provide dynamic inventory control methods in a supply chain as such techniques are examples of "lean manufacturing strategies to increase competitiveness and reduce costs. One strategy includes synchronized delivery of to a manufacturing or assembly plant,

where the plant maintains a minimal level of inventory." (Burnard [1,20]). The use of the triggering mechanism in Griep, which is analogous art, based on a specified quantity of parts, would therefore have been obvious to include in the teachings of Lindoerfer, Aram and Burnard since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 2 and 13:

Lindoerfer/Aram describe and/or disclose the limitations in claims 1 and 11 above and 12 below. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *the public data network is the Internet* (In at least [0085] Lindoerfer states: "Initial information/data (e.g., planning, parts, etc.. . .) is provided via an established data link over a network (e.g., Internet) between a manufacturer [ ] and the SRMS […]" (emphasis added) where the Internet is a *public data network*..)

The inventions of both Lindoerfer and Aram describe a number of similarities in that both inventions pertain to supply chain systems that utilize state-of-the-art communications methods via the Internet and computer based inventory control systems and methods. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because employing features of both inventions increases the functionality and applicability of these supply chain management systems.

Claim 3:

Lindoerfer/Aram describe and/or disclose the limitations in claims 1 and 2 above. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *the shipping order and the delivery information are transmitted using extended markup language (XML)* (Lindoerfer, in at least [0010] states: "Embodiments […] provide manufacturers and suppliers with the above capabilities when […] data formatting systems include XML […]." In addition, Aram, in at least [0031] states:

> "The computer system may communicate with the intermediary and/or customer and/or supplier(s) by any convenient communication means, but the system is particularly suited to implementation over an electronic communications network employing […] the Internet [and] may comprise […] of instruction codes for web data pages, such as […] XML [ ]."

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to incorporate the use of state-of-the-art markup languages such as XML as disclosed in both references for data interchange in a supply chain management system as this provides great flexibility and scalability that facilitate deployment of such supply chain systems.

Claim 5:

Lindoerfer/Aram describe and/or disclose the limitations in claim 1 above. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *the manufacturer comprises multiple manufacturing sites, with at least two of the sites forwarding shipping orders and receiving delivery information* (Lindoerfer, in at least [0003] states: "[T]he present invention involves the electronic management of the manufacturer/supplier relationship including multiple manufacturers and their many suppliers." The notion of 'multiple manufactures' implies multiple *sites*. Moreover, Lindoerfer, in at least [0230] describes the elements pertaining to *forwarding* and *receiving delivery information,* to wit: "[T]he SRMS is configured to manage and consolidate the schedules of multiple manufacturers for the benefit of individual suppliers/vendors. More often than not, a single supplier/vendor is responsible for providing products and/or services to multiple manufacturers. In the same way that the SRMS simplifies and manages the supply chain from the manufacturers perspective, suppliers/vendors will also benefit from the consolidation if information about the manufacturers they are servicing. The SRMS provides searchable information and summary screens to suppliers/vendors containing data for multiple manufacturers. These information and summary screens are dynamic in

that they provide the supplier/vendor with filters in order to single out desired data. These filters allow users to narrow according to manufacturer, product and/or service, delivery dates, end-product due dates, etc." Emphasis added. Note that since this consolidated information contains *delivery information* that originated with manufacturers (multiple) and *ipso facto* it was forwarded and received by at least two such sites, hence, within the scope of the limitation.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram as shown because use of their inventions provides supply chain management capabilities to multiple and distribute manufacturing and supplier locales, hence, permits greater efficiency in the management of large-scale manufacturing systems.

Claims 6 and 15:

Lindoerfer/Aram describe and/or disclose the limitations in claim 1 above and claims 11 – 14 as shown below. Note that the limitations of claim 15, although reworded in some instances and restructured, are identical in scope as those of claim 6 and are therefore addressed together. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *inputting manually created demand data and automatically triggering a part pull request signal based on the manually created demand data* (In at least [0128], Lindoerfer states: "The manufacturer can tag the items manually or, […] through a Material Release process whereby a manufacturer determines when to allow a supplier to ship parts […] by setting up trigger configurations." (Emphasis added.) Here, the phrase 'tag the items manually' is equivalent to *inputting manually created demand data* and 'setting up trigger configurations' is equivalent to *triggering a part pull request signal* as per the limitation.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because allowing manually entered

data provides users of these supply chain management systems with additional flexibility to handle unexpected situations and, therefore, make such systems more useful.

Claim 7:

Lindoerfer/Aram describe and/or disclose the limitations in claim 1 above. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *automatically generating shortage information based on delivery information generated by the logistics provider and forwarded to the manufacturer* (Lindoerfer, in at least [0016] states that his invention enables: "[…] inventory stock status, material receipt, performance metric on shipments, remittance, […] ship notice preparation and processing, […]" Note that stock status entails *shortage information* and 'material receipt' entails *delivery information* which, *ipso facto* is generated by a *logistics provider* (see also Lindoerfer at [0143] wherein he specifically refers to "logistics information service providers".)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because by providing updated and current information on the status of inventory the system enables a more efficient and cost-effective supply management system for large-scale manufacturing systems.

Claim 8:

Lindoerfer/Aram describe and/or disclose the limitations in claims 1 and 7 above. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *automatically refreshing the shortage information on a periodic basis* (Lindoerfer, in at least [0016] states: "[T]he business practices that are enabled [by the SRMS programs] and enhanced include, […] inventory stock status …" Lindoerfer further notes in at least [0110] that "Other data entered into the SRMS and stored in the DBMS includes operational tables that support displays in which the data changes frequently …" where this implies periodic updating of information. Finally, in at least [0113] Lindoerfer states: "[U]sers of the SRMS utilize multiple Webpages in order to

> […] monitor supplier status […] [A]n "Inventory Summary" screen summarizes a manufacturer's current inventory of products, […] The inventory visibility feature provides the supplier with the data required to maintain safety stock quantities, […] Each plant/facility will provide inventory quantity […] through the SRMS so that suppliers will be able to track the physical location of products they are carrying in their inventory."

Lindoerfer does not specifically refer to *shortage information per se*, but Aram, as shown, does. Aram, in at least [0202] states: "The graphical representation of the distributor's stock level allows a distributor to quickly ascertain when (or whether) the stock level is predicted to fall below the safety stock level and when (or whether) the stock level is predicted to fall below zero…" where the notion of a stock level falling 'below zero' is equivalent to a *shortage*. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because supply chain systems that maintain updated information on inventory levels, including whether there are current or predicted shortages of inventory permits accurate assessment of the current status of the supply chain system and thereby enables corrective action and hence higher performance of such supply chain systems.

Claims 9 and 16:

Lindoerfer/Aram describe and/or disclose the limitations in claims 1 and 15 above. Note that the limitations of claim 16, although reworded in some instances and restructured, are identical in scope as those of claim 9 and are therefore addressed together. Lindoerfer, as shown, further discloses and/or describes the following limitations.

- *a third party interface configured to enable a third party distinct from the manufacturer to forward shipping orders to the logistics provider and receive delivery information* (Lindoerfer, in at least [0084] states: "[T]he SRMS may be hosted by a third party to the supply chain**,** e.g., a service provider, or the SRMS may be hosted by a party to the supply chain**,** e.g., the manufacturer. Regardless of who the hosting entity is, the method and system of the present invention may be practiced in full under either

embodiment." As noted in the rejections of claims 1 and 11 through 15, this system is also utilized to *forward shipping orders* and *delivery information*.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because providing capabilities to third parties to use the supply chain system provides flexibility on how the system is implemented and, hence, enables potential cost savings for such supply chain systems.

Claim 12:

Lindoerfer/Aram describe and/or disclose the limitations in claim 11 above. Aram, as shown, further describes and/or discloses the following limitation.

- *the processor is coupled to computer program media, the processor being configured by a computer program stored in the computer program media* (Aram, in at least the abstract states: "The system further includes a processor coupled to the database for accessing the stored parts related data, and communication means. The system software includes …" Aram further refers to 'program media' in at least [0103]: "for example, RAM or non-volatile storage such as a hard disk. Data […] may be written to and/or read from portable storage media, such as floppy disk 317." Moreover, Examiner takes **as admitted prior art** that it is old and well-known as well as commonplace in the eCommerce arts to employ the use of computers, computer programs, and program media to implement such systems.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because use of state-of-the-art computer systems and components allows the methods of their inventions to be realized.

Claim 14:

Lindoerfer/Aram describe and/or disclose the limitations in claims 11 – 13 above. Aram, as shown, further describes and/or discloses the following limitation.

- *…a plurality of manufacturing facilities are coupled together by an intranet, with at least two of the manufacturing facilities each having at least one parts consumption*

detector coupled to the processor through the intranet (Aram, in at least [0031] states: "The computer system may communicate with the intermediary and/or customer and/or supplier(s) by any convenient communication means, but the system is particularly suited to implementation over an electronic communications network employing an internet protocol, such as an intranet […].")

Aram does not specifically refer to a *plurality of manufacturing facilities,* or the *consumption detector,* but Lindoerfer, as shown, does. Lindoerfer, in at least [0003] states: "More particularly, the present invention involves the electronic management of the manufacturer/supplier relationship including multiple manufacturers and their many suppliers." Lindoerfer, in at least [0231] refers to the equivalent of a *consumption detector*, to wit: "The SRMS is configured to track the cumulative consumption of materials by one or more manufacturers. This information allows suppliers/vendors to track the consumption needs of manufacturers."

The inventions of both Lindoerfer and Aram describe a number of similarities in that both inventions pertain to supply chain systems that utilize state-of-the-art communications methods via the Internet and computer based inventory control systems and methods. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because employing features of both inventions increases the functionality and applicability of these supply chain management systems.

Claim 17:

Lindoerfer/Aram describe and/or disclose the limitations in claims 11 above. Lindoerfer, as shown, further describes and/or discloses the following limitation.

- *the logistics provider coupled to the public data network and having a warehouse management system configured to receive the shipping order and automatically generate a picking list based on the shipping order* (Lindoerfer, in at least [0085] states: "[T]he SRMS is hosted by a third party service. Initial information/data (e.g., planning, parts, etc.. . .) is provided via an established data link over a network (e.g.,

Internet)…". Examiner takes **as admitted prior art** that the Internet is a *public data network*. In at least [0014], Lindoerfer states: "Requirements data is received from a manufacturer …" where 'requirements data' corresponds to a shipping order. Lindoerfer, in at least [0258] further states: "[T]he SRMS provides automation tools for automating supplier shipping functions, such as facilitating use of the SRMS to generate packing lists and other shipping-related documentation […]." (emphasis added) where 'generate packing lists' corresponds to the limitation *generate a picking list*. Finally, in at least [0120] Lindoerfer refers to "stock inventory maintained by the supplier at their facilities." (emphasis added) and thus corresponds to a *warehouse* wherein the SRMS *management system* is utilized.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because connecting logistics providers to public data networks and allowing information transmitted over such networks to automatically generate a picking list enables a faster and more efficient and cost-effective supply chain management system.

Claim 18:

Lindoerfer/Aram describe and/or disclose the limitations in claims 11 and 17 above. Lindoerfer, as shown, further describes and/or discloses the following limitation.

- *the warehouse management system is further configured to generate the delivery information based on the generated picking list* (See the rejection of claim 17 regarding the *warehouse management system.* Lindeorfer, in at least [0117] states: "A manufacturer's material delivery requirements [… are] summarized on a "Schedule Summary" […]. These requirements may be derived from manufacturer data from a variety of sources including, but not limited to: planning schedule documents, purchase order documents, material release documents, Vendor Managed Inventory data and other data sources and data structures. The "Schedule Summary" screen provides the user with summary information on all parts delivery

requirements to the manufacturer and tracks the status of these requirements from this point on in time until the requirement is fulfilled and completed. For example, the "Schedule Summary" displays the commit, shipment, receipt and payment information […]." where the phrase 'derived from manufacturer data' in conjunction with the other emphasized text corresponds to *delivery information based on the generated picking list.*)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because configuring a warehouse management system to automatically generate delivery information based on a picking list enables a faster and more efficient and cost-effective supply chain management system.

Claim 19:

Lindoerfer/Aram describe and/or disclose the limitations in claims 11, 17 and 18 above. Lindoerfer, as shown, further describes and/or discloses the following limitation.

- *the warehouse management system is further configured to generate shortage information and provide the shortage information to the processor via the public data network on a periodic basis* (Lindoerfer, in at least [0113] states: "The inventory visibility feature provides the supplier with the data required to maintain safety stock quantities […]. Each plant/facility will provide inventory quantity and location information through the SRMS so that suppliers will be able to track the physical location of products they are carrying in their inventory." Here, the 'inventory visibility feature' provides data pertaining to 'safety stock', hence corresponds to *shortage information*. Further, this information is manipulated 'through the SRMS' which corresponds to providing this information *via the public data network* (see the rejection of claim 11). Finally, the capability 'to track' this information *ipso facto* indicates such information is provided to the network on a *periodic basis.*)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because configuring a warehouse

management system to provide shortage information (inventory management capability) to a processor connected to a public network enables a faster and more efficient and cost-effective supply chain management system as it allows data to be provided to those users that require it.

Claim 20:

Lindoerfer, as shown, describes and/or discloses the following limitations:

- *a consumable parts usage detection system that*
  - *automatically detects the usage of consumable parts and* (See the rejection of the first limitation of claim 1);
  - *generates usage signals that indicate a quantity of consumable parts used at the manufacturing facility, wherein the detection occurs at the time of part usage* (Lindoerfer, in at least [0231] states: "The SRMS is configured to track the cumulative consumption of materials by one or more manufacturers." Emphasis added. The capability to track the 'consumption of materials' implies the generation of *usage signals*)*; and*

Lindoerfer does not specifically describe and/or disclose the following limitations, but Aram, as shown, does:

- *means responsive to the usage signals for*
  - *automatically interfacing the manufacturing facility with the logistics provider over a public data network to cause the logistics provider to replenish the consumable parts at the manufacturing facility* (Aram, in at least [0003] describes the following: "In a demand pull system, the manufacturer automatically orders stock from the supplier in anticipation of its use …" (emphasis added)
  - *and to provide delivery and shortage information to the manufacturing facility over the public data network wherein the means responsive to the usage signals are triggered after detected usage of a predetermined number of individually detected parts* (Aram, in at least [0002] states: "The invention is particularly concerned with the electronic management of procurement using a

communications network such as the Internet." Thus corresponding to data sent over *the public data network*. In at least [0185] Aram further states: "Delivery information […] Corresponding information can also be delivered to the customer by e-mail […]." Note that since the 'delivery information' can be sent by 'e-mail', it corresponds to the part of the limitation that it sent over the *public data network*. Finally, the communication of *shortage information* is also described in at least [0140]: "However, if the stock is less than the minimum safety level, both the distributor and supplier are e-mailed with notification of the supplier's low stock level of that part." Where the insufficiency of safety stock corresponds to *shortage information* which is 'e-mailed', hence *provide*d over a *public data network*.)

The inventions of both Lindoerfer and Aram describe a number of similarities in that both inventions pertain to supply chain systems that utilize state-of-the-art communications methods via the Internet and computer based inventory control systems and methods. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram because employing features of both inventions increases the functionality and applicability of these supply chain management systems.

Neither Lindoerfer nor Aram specifically teach *wherein the detection occurs at the time of part usage,* but Burnard, in an analogous art does. Burnard [abstract] and at [2,19] states "The method includes the steps of tracking real-time usage of material used for a product, maintaining the tracked real-time material usage within a computer database on a local computer network ..." (emphasis added) and further teaches methods of dynamic inventory management in a supply chain. Examiner further notes that such real-time detection (tracking) is also old and well-known in the supply chain management arts as further shown in Radican [6,50] regarding the tracking and monitoring of parts usage. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and combine the teachings of

Lindoerfer, Aram and Burnard to provide dynamic inventory control methods in a supply chain as such techniques are examples of "lean manufacturing strategies to increase competitiveness and reduce costs. One strategy includes synchronized delivery of to a manufacturing or assembly plant, where the plant maintains a minimal level of inventory." (Burnard [1,20]). Moreover, the technical capability to combine these teachings existed at the time of the invention and the combination of them would have been predictable.

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoerfer/Aram/Burnard/Griep as applied to claims 1, 2, and 3 above, and further in view of Kureshy (US 20020152268 A1).

Claim 4:

Lindoerfer/Aram describe and/or disclose the limitations in claims 1–3 above. Lindoerfer/Aram do not specifically disclose the following limitation, but Kureshy, as shown, does.

- *the forwarding of the shipping order from the manufacturer to the logistics provider is a peer-to-peer transmission* (Kureshy, in at least [0046] states: "Although the remote client application [] and the network application [] are illustrated in a server/client relationship, one skilled in the relevant art will appreciate that the two applications may also be configured in a peer-to-peer relationship." Emphasis added.)

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to combine the inventions of Lindoerfer and Aram with that of Kureshy because all of these inventions entail some form of communications over the Internet and the use of peer-to-peer type networks increases the capacity, fault tolerance and robustness of peer-to-peer networks and, hence, would do so in supply chain systems.

Conclusion

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Mark A. Fleischer** whose telephone number is **571.270.3925.** The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **Lynda Jasmin** whose telephone number is **571.272.6782** may be contacted.

The prior art made of record and not relied upon that is considered pertinent to applicant's disclosure are:

- Radican (US 6560508 B1)

and pertains to a standard parts metering system in an assembly operation and is deemed relevant to the instant application.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair <http://pair-direct.uspto.gov >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

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or faxed to **571-273-8300**.

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Examiner, Art Unit 3624 6 November 2010

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